

GRENADE DISPENSE MECHANISM  
FOR NON-SPIN DUAL PURPOSE IMPROVED  
CONVENTIONAL MUNITIONS

ABSTRACT TO DISCLOSURE

Grenade dispensing mechanism for non-spin or low spin dual purpose improved conventional munition launched from inside a projectile. At a pre-determined point along the trajectory, the projectile time fuze which is set at the gun functions to provide initiation output to the payload expulsion charge assembly. The said assembly contains a propellant which when ignited, produces a gas pressure acting on a pusher plate which acts as a piston. The gas pressure increases with time (msec) until the forces of the gas pressure acting on the pusher plate through the grenade payload to the base/tail assembly are sufficient to shear the thread attachment of the base assembly to the projectile body section. An obturator band serves to obturate or seal the expulsion gas pressures to prevent excessive gas blow-by as the payload canister assembly travels through the rifled projectile body section. Upon thread shear, the base separates from the projectile body permitting the movement of the grenade payload toward the aft open end of the projectile body. The projectile payload section contains the space occupied by the warhead or payload canister assembly. The steel cylindrical canister encloses the grenade sub-package. A pre-engraved rotating band attached to the payload canister as it travels through the projectile section rifling creates a torque thus the grenades emerge from the projectile body with rotational and tangential velocity determined by their position in the payload section. This rotational and translational velocity causes the grenades to disperse, arm and stabilize to form a large approximately uniform, distribution of grenades in a pattern effects over a target area. Mechanism can be adjusted to handle a variety of other submunitions, anti-personnel, anti-material.